Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

Listing of Claims

1. (previously presented) A dispersion which contains particles of at least one intrinsically conductive polymer, wherein the particle size is on average (weight) less than 1 μm, characterized in that the dispersant is a liquid at room temperature, and a layer, film or sheet formed from this dispersion has a conductivity of >100 S/cm after removal of the dispersant.

2. (previously presented) The dispersion according to claim 1, characterized in that the conductivity is at least 200 S/cm.

3. (previously presented) The dispersion according to claim 2, characterized in that the conductivity is 300 S/cm to 3000 S/cm.

4. (previously presented) The dispersion according to claim 1, characterized in that the polymer is selected from the group consisting of polyaniline, polythiophene, polythienothiophene, polypyrrole, copolymers of the monomers of these polymers and polymers or copolymers of the derivatives of these monomers.

5. (previously presented) The dispersion according to claim 1, characterized in that the dispersant has a relative viscosity of < 10,000.

6. (currently amended) A process for the preparation of a dispersion according to claim 1, comprising the steps of:

(a) preparing an intrinsically conductive polymer from monomers, wherein the temperature during the polymerization is controlled such that it does not exceed a value of more than 5°C over the starting temperature,

(b) triturating and/or dispersing the product from-step (a) in the presence of a non-electrically conductive, non-polymeric polar substance which is inert vis-à-vis the conductive polymer, applying adequate shearing forces, wherein the weight ratio between the conductive polymer and the polar substance is 2:1 to 1:10, and

(c) dispersing the product from step (b) in a dispersant which is liquid at room temperature, wherein the weight ratio between the conductive polymer and the dispersant is less than 1:10.

7. (previously presented) The process according to claim 6, characterized in that at no time during the polymerization is the rate of the temperature rise during step (a) more than 1 K/minute.

8. (previously presented) The process according to claim 7, characterized in that in step (b) furthermore at least one non-conductive polymer is present.

9. (previously presented) The process according to claim 8, characterized in that the non-conductive polymer is a thermoplastic polymer.

10. (previously presented) The process according to claim 6, characterized in that the product from step (b) is subjected to a post-treatment.

11. (previously presented) The process according to claim 10, characterized in that the portion of the polar substance or of the non-conductive polymer in the product from step (b) is reduced during the post-treatment by washing or extraction.

12. (previously presented) The process according to claim 6, characterized in that solvents and/or auxiliaries are added which support the subsequent dispersion step (c).

13. (previously presented) The process according to claim 6, characterized in that the product from step (c) is subjected to a post-treatment.

14. (previously presented) The process according to claim 6, characterized in that viscosity regulators, wetting aids, matrix polymers, stabilizers, cross-linking auxiliaries, evaporation regulators and/or other auxiliaries and additives which support an optionally following shaping process are added.

15. (previously presented) The process according to claim 14, characterized in that the addition takes place before or during step (c).

16. (previously presented) The process according to claim 6, characterized in that during the post-treatment of the product of step (b) and/or during dispersion step (c) an organic solvent is used which has a surface tension of more than 25 mN/m.

17. (previously presented) The process according to claim 10, characterized in that the concentration of the conductive polymer increases during the post-treatment of the product from step (b) by at least 5 wt.-%, relative to the constituents solid at room temperature.

18. (previously presented) The process according to claim 6, characterized in that the dispersion step(s) is or are carried out in a dispersion device selected from the grouping consisting of a ball mill, a bead mill, a three-roll mill and a high-pressure dispersion device.

19. (previously presented) The process according to claim 6, characterized in that the dispersion is carried out under ultrasound.

20. (previously presented) The use of a dispersion according to claim 1 for the preparation of mouldings, self-supporting films or coatings with electric conductivity.

21. (previously presented) The use according to claim 20, characterized in that the mouldings, self-supporting films or coatings are electrodes, antennae, polymeric electronics components, capacitors and double-layer capacitors (DLC).

22. (previously presented) The use of a dispersion prepared according to the process of claim 6 for the preparation of mouldings, self-supporting films or coatings with electric conductivity.

23. (previously presented) The use according to claim 22 characterized in that the mouldings, self-supporting films or coatings are electrodes, antennae, polymeric electronics components, capacitors and double-layer capacitors (DLC).